

Daily GLOWBUGS

Digest: V1 #15

via AB4EL Web Digests @ SunSITE

Purpose: building and operating vacuum tube-based QRP rigs

[AB4EL Ham Radio Homepage @ SunSITE](#)

%%%%% GlowBugs %%%% GlowBugs %%%% GlowBugs %%%% GlowBugs %%%%

Subject: glowbugs v1 #15
glowbugs Friday, April 25 1997 **Volume 01 : Number 015**

Date: Thu, 24 Apr 1997 13:13:41 -0400
From: BEN NOCK <106312.1035@compuserve.com>
Subject: VT tube equiv's, thanks..

A big thanks to the many who sent me the
VT tube equiv's, including the complete list
from Mike, KK6GM.
(sorry Jack !, too many to answer individually)

I'm attending a big VINTAGE WIRELESS show here
at the beginning of May. If anyone has any particular
needs, I'll happily take details and look for you, but can't
guarantee anything of course.

73, Ben G4BXD.

Date: Thu, 24 Apr 1997 17:20:41 +0000
From: Sandy W5TVW <ebjr@worldnet.att.net>
Subject: Repost: Regen. Sensitivity

I made some quick checks on my two active receivers and came up with
the following:

National 2DCSW-3 receiver (model 2). Uses a '32 TRF stage, '32
detector, '30 AF amp. Sensitivity spot checked and found as below.

Mhz	CW	AM
1.6	3 uv.	12uv.
3.5	1-2 uv.	10 uv.
7.0	1-2uv.	10 uv.
14	2 uv	12 uv.
21	2-3 uv	12-14 uv

Tried bandspread and general coverage coil sets. No difference except better stability with bandspread sets. "AM" sensitivity measured just below oscillation point with generator 30% modulated.

Homebrew one tube set. Uses a single 1J6G tube (Same as the '19 except for base) dual triode. One stage detector one stage AF amp.

Mhz.	CW	AM
3.5	3-4 uv.	15-20 uv.

Same test conditions as above. Generator used was a General Radio 1001A terminated with 50 ohm adapter and 50 ohm termination.

For newly constructed regenerative sets, I would dispense with the RF stage. They seem to be more trouble than they are worth! There isn't that much additional selectivity except possibly in the broadcast band. You have the aggravation of two coils per band to change. I've NEVER seen a regen with a TRF stage that would track decently on a 'general coverage' coil set. Pentode detectors are slightly more sensitive than triode ones, but very close attention must be paid to the screen voltage and the "tickler" winding turns to realize the "gain" improvement and smooth regeneration control. Triode detectors are easier to get going and have less "vices" than pentodes. Both can be very cantankerous if you have any hint of capacitor wipers, switch or tube socket contacts that are the slightest bit "noisy" can ruin stability of the detector! If I don't use my SW-3 for a while, I have to clean the coil form pins to calm noise and instability down! Due to the tremendous amount of gain achieved by the detector, the smallest irregularity will be magnified way out of proportion to what it would be in say a superhet receiver! This is one reason for using quality components such as tube sockets, tuning condensers etc. I would stick with either ceramic "isolantite" type sockets or mica-filled bakelite (the tan or beige colored ones) for the detector and coil sockets. The newer film type resistors (the light blue ones) and the epoxy dipped mica caps. are excellent as regards "noise".

Another point missed is to return all bypasses/grounds to a common point. Don't regard the "chassis" as a 'common point'. In regens you don't get by with this as in superhets. I think this was the reason you see so many of the old designs with a "ground buss". Anyway, regens seem very sensitive to multiple "ground current" flow/path. If you use say a mounting saddle for an octal socket (that usually has lugs on it) for a ground path, connect all the ground ends of bypasses for that stage to the saddle, not at other points on the chassis.

You have no idea of how much grief can be saved with proper layout!

I hope this helps you would-be regenny constructors out there. I have a new one "under construction" using a National "PW" dial I aquired (HRO dial). I intend it to be a "test bed" for trying various tubes (1.4, 2 and 6 volt types) with octal bases, then various miniature types via 'adaptors'. More to follow. This way I can actually see any difference in various type types while basically everything else remains the same.

73,

E. V. Sandy Blaize, W5TVW
"Boat Anchors collected, restored, repaired, traded and used!"
417 Ridgewood Drive,
Metairie, LA., 70001
ebjr@worldnet.att.net
Looking for: 860 tubes, WL-460 tubes
Butternut HF2V antenna, G-R test gear.....*

Date: Thu, 24 Apr 1997 10:51:00 -0700
From: "Bowman, Jim" <Jim_Bowman@ATK.COM>
Subject: RE: dial restrung plus

I would think the braided dacron fishing lines would work fine if available. K-mart and others used to sell the black dacron line pretty cheap. The newer braided no-stretch lines would work fine, I'm sure, but some are pricey. The main thing is to use something with no stretch. Check with a fisherman friend first and see if you can get a few feet of something suitable. If they are a fishing nut like me (radio isn't bad enough??) they have line out the kazoo!

Jim W7HPK

From: leebbo@ct.net
To: GLOWBUGS@www.atl.org
Subject: dial restrung plus
Date: Thu, Apr 24, 1997 9:54AM

>To: gb
>From: leebbo@ct.net (Leon Wiltsey)
>Subject: dial restrung plus
>Cc: DIAL STRING PLUS
>
>>To: BA
>>From: leebbo@ct.net (Leon Wiltsey)
>>Subject: dial restrung plus
>>
>>Hi Gang Lee here
>>
>>Need some info saw postings on this subject awhile
>>back so someone knows all about it.
>>Received the receiver I baught from Bighorn, sx101 , it was pretty much
as he
>>described it. am now trying to find out how long it has been since it
was
running.
>>But thats another subject, what I need to know is where do

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>>you get dial cord and what is a good replacement type cord to use?  
>>  
>>Ok since I got your attention I will ask the second question.  
>>in the likely event the rec has not had power to it for years,  
>>what is the best way to fire it up? I do not have a variac, but thought  
>>I might put a 150 watt bulb in series with the line voltage to  
>>ease the shock of all those volts hitting it after a long while, any  
suggestions  
>>will be appreciated.  
>>
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Thank the good LORD for all that you have!!!

Leon B Wiltsey jr. (Lee)
4600 Lake Haven blvd...
Sebring fl 33872.....

68yr old retired semi disabled senior
(stroke got my balance and coordination)
formerly w4kcj & kp4ryb (till I quite) dumb dumb
waiting for my tech+ lic to arrv 73's
play keyboard and sing
music 1920's to 60'
none of the 80'S- 90'S noise

Date: Thu, 24 Apr 1997 20:08:03 -0400 (EDT)
From: EricNess@aol.com
Subject: Rebuilding an old glowbug

At a recent electronics swap meet, I picked up a poor orphan glowbug transmitter for a buck. The transmitter uses a single 6GW8 which I imagine is a triode/beam pentode combo. Unfortunately, neither of my tube manuals list the 6GW8. Could somebody send me the pinouts of this one?

I don't think this poor little glowbug ever worked but it can be saved! I have already built a new chassis (the old one didn't fit into it's box) and tonight I will start transferring components. By Saturday, it will be time to start wiring. Just need that pinout.

73, Eric WD6DGX

Date: Thu, 24 Apr 1997 18:01:50 -0800
From: herr@ridgecrest.ca.us (Michael Herr)
Subject: Re: preselector for regen rx

```
>> BABob et al,  
>>  
>> I'm jumping the gun here as I've yet to build anything.  
>> However, the planning is half the fun and sometimes it's  
>> easier if it's planned :-)   
>
```

```
>Jump ditty jump ditty jump.....(:+})}.....  
>  
>> Would an active preselector be the next logical addition  
>> to a basic det plus audio regen?  
>>  
>> -bob  
>> wb4mnf  
>  
My vote is for the preselector. While a second stage of audio might make  
gain sense, the preselector will help isolate the regen from the antenna,  
reducing the unintentional radiation of rf and reduce the coupling of the  
antenna to the detector, ie gets rid of the swinging antenna syndrom.  
73  
Mike WA6A^A
```

Date: Thu, 24 Apr 1997 23:38:15 -0400 (EDT)
From: leebbo@ct.net (**Leon Wiltsey**)
Subject: breadboarding

```
>To: ba  
>From: leebbo@ct.net (Leon Wiltsey)  
>Subject: breadboarding  
>  
>>  
>>>Hi gang  
>>>  
>>  
>>  
>> SPENT THE EVENING  
>>WITH MY 200 ELECTRONIC PROJECT KIT THE WIFE GOT  
>>FOR ME RIGHT AFTER MY STROKEFROM RADIO SHACK TO GET ME BACK  
>>DOING SOME THINGS THAT NEEDED HAND TO EYE  
>>COORDINATION.. IT IS A GREAT KIT A COUPLE OF DOZEN  
>> RESISTERS ANOTHER DOZEN CAPS 4 TRANSISTORS A POT  
>>A SPEAKER 2 SMALL TRANS AND A PLACE TO PUT 6 AAA  
>> CELLS TO POWER IT AND A NICE MANUAL WITH DOZENS OF CIRCUITS.  
>>>THE PARTS ARE CONNECTED BY RUNNING SMALL WIRES BETWEEN  
>>SPRING CLIPS AT EACH PART. I WANTED TO BUILD A AUDIO OSC  
>>FOR TESTING AUDIO STAGES, SO SPENT THE EVENING BREADBOARDING  
>>A CIRCUIT. ONE TRANS AND A DOZEN OR SO PARTS, NOW THAT I  
>>HAVE IT WORKING WILL DUPLICATE IT ON A SMALL PC BOARD  
>>AND PUT THE WHOLE THING IN A SMALL PLASTIC BOX AND  
>>I WILL HAVE A CHEEPO AUDIO OSC.  
>
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Thank the good LORD for all that you have!!!

Leon B Wiltsey jr. (Lee)
4600 Lake Haven blvd...
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68yr old retired semi disabled senior
(stroke got my balance and coordination)
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music 1920's to 60'
none of the 80'S- 90'S noise

Date: Fri, 25 Apr 1997 11:16:39 -0400 (EDT)
From: rdkeys@csemail.cropsci.ncsu.edu
Subject: Re: preselector for regen rx

> My vote is for the preselector. While a second stage of audio might make
> gain sense, the preselector will help isolate the regen from the antenna,
> reducing the unintentional radiation of rf and reduce the coupling of the
> antenna to the detector, ie gets rid of the swinging antenna syndrom.
> 73
> Mike WA6A^A

I see what you are saying, but I never have that problem if I have designed the input section of the detector correctly. The antenna swinging syndrome is a dead giveaway of overcoupled detectors. Also, when sufficiently loosely coupled to prevent the antenna swinging syndrome, radiation is nil. I can hear the oscillating detector in the shack, and the fellow a mile away hears nothing, and the fellow across the greenway occasionally barely hears it when I have the long outdoor antenna attached, but only rarely.

RF stages can be notoriously noisy, and that can mask the excellent sensitivity of the regen detector. If the rf stage runs the noise floor up then that can be a problem, although usually on lower hf bands, the ambient noise will even mask that, in which case the RF stage will provide the isolation and some gain.

Shielding will be critical on a preselector and the detector stages. The detector is sensitive enough to pick up leakage rf paths around the front end, if you are not careful in design. That is why you can use a good regen detector without antenna or with a very short antenna of a few inches, and have it perform well on HF.

If I were to make a preselector, I would make it regenerative, also, and keep it just below oscillation, to maximize selectivity. Then, if it were very loosely coupled, in a well shielded cabinet, with proper Faraday shields (like the old RCA AR-1496), proper bypassing, and proper tuning, it might be a pretty good front end and a pretty good receiver. It would be a 3-handed operation to run, tho.

Like I said earlier, there is pro and con.....

Anyway.... Great Discussion!

Fodder for thought..... Why would you want to use an untuned rf stage vs a tuned rf stage..... more pros and cons. Both are used and both work.

73/ZUT DE NA4G/Bob UP

Date: Fri, 25 Apr 1997 11:31:43 -0400 (EDT)
From: rdkeys@csemail.cropsci.ncsu.edu
Subject: Where is everyone on 40M????? Nil sigs heard!!!!!

Hey folks, where did everyone go on 40M? I don't hear so many of us as were down on 80M. Rallye round da QRG 7050KCS/QTR 0000/0100/0200Z and fires ye up yer Glowenbottleburnin' ether spitzensparkers! If enuf of us bottleburners keep upon da QRG, them thar silisidebanders will move up a hair. This be a fine weekend fer da BA/GB watch!

73/ZUT DE NA4G/Bob UP

p.s. There are some of us QRQ folks wid bugges an' them thar feisty sendin' irons wats inhabits da QRG 7050KCS/QTR 0300-0400Z. All youse bugge men (an' lasses, too) are most welcome ta joins in. If yer QRQ be 20 an' above, an' yer bottles still be warm, keeps ye yer ether sparks a'flyin'! Warm glowbottles, an' hot bugges a'dancin' ---- ahhhh, dat be real radiddeo.....

Date: Fri, 25 Apr 1997 11:16:39 -0400 (EDT)
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73/ZUT DE NA4G/Bob UP

Date: Fri, 25 Apr 1997 15:24:50 -0400 (EDT)

From: EWoodman@aol.com

Subject: RE: Where is everyone on 40M????? Nil sigs heard!!!!!!

Bob Keys was lamenting:

>Hey folks, where did everyone go on 40M?

Well, guess I've gotta stop working on the 160 and 80 meter stuff! Have nothing for 40M except the Knight T-150. Soon as I get the mods done to exorcise the chirpy and yoopy demons from the beast I'll give it a shot.

Is it just me or do most of us have lots of stuff for 160 and 80 and not much for the shorter waves?

By the way, I've lost the address of the gentleman who's supplying some of you with the crystal packs for 40M. If I can get a crystal or two I could at least get my 6L6 rig going on 40. I'd stick a tiny coil in my Hartley but I'd be afraid of what would happen!

73 Eric KA1YRV

End of glowbugs V1 #15

%%%%% GlowBugs %%%% GlowBugs %%%% GlowBugs %%%% GlowBugs %%%%

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Created by **Steve Modena, AB4EL**

Comments and suggestions to modena@SunSITE.unc.edu
